

## STANDARD FEATURES

“Our smart design integrates many upgrades that combine sustainable operation and ergonomic sampling and maintenance in order to enhance the ownership experience of your Aqua-Chem system.”

- Modular “plug-and-play” design
- Operator-focused sampling and maintenance
- Stainless steel frame and enclosures
- 316L tubing with  $\leq 20 \mu\text{-in Ra}$  after RO
- Catalytic carbon with spare exchange vessel
- Active feedwater disinfection and  $\text{Cl}_2$  monitor
- Insulated SST break tank with CIP functionality
- All-electric Hot Water Sanitization (HWS)
- Continuous product demineralization
- Oversized, easy-to-use 15” HMI
- GAMP 5 documentation package
- Complete Factory Acceptance Test (wet FAT)
- Remote diagnostics & 24/7 post-sales support
- Made in and serviced from the USA

## FLEXIBLE OPTIONS & UPGRADES

- Hot or ambient storage and distribution
- 1 or 2 Pass reverse osmosis in FRP or SST
- Chemical dechlorination and pH adjust
- Steam sanitization and chiller exchangers
- Loop disinfection and 6.0 kDa ultrafiltration
- Upgraded sensors, TOC, and Bioburden
- Engineer-led Commissioning and Validation
- IQ/OQ Protocols and Execution
- Extended warranty, service, and spare parts



## USP PURIFIED WATER (PW) GENERATION SYSTEMS

The TORRENT® PW Packaged RO/CEDI USP PW System generates compendial water that exceeds current USP, PhEur, and JP requirements for pharmaceutical, biotechnology, and cosmetic applications. The premium design emphasizes ease of use and maintenance with fully automated features like hot water sanitization, an ergonomic sampling station, and the best, high-end, non-proprietary components selected for reliable, efficient service. Qualified water is delivered consistently and with minimal downtime. TORRENT® water systems include short lead times and are fully factory tested for fast installation, start-up, and validation.

### Aqua-Chem's TORRENT® Pharmaceutical Water Solutions Deliver:

- Uncompromised Design
- Effortless Integration
- Intuitive Functionality
- Bulletproof Documentation

MODEL <sup>1</sup>	TNTPWQ03	TNTPWQ05	TNTPWQ110	TNTPWQ30	TNTPWQ45
<b>Loop Supply Rate<sup>2</sup></b>	2.7-3.3 gpm	4.5-6.0 gpm	9.0-11.0 gpm	27.0-33.0 gpm	40.5-49.5 gpm
	0.6-0.75 m <sup>3</sup> /h	1.0-1.36 m <sup>3</sup> /h	2.0-2.5 m <sup>3</sup> /h	6.1-7.5 m <sup>3</sup> /h	9.2-11.2 m <sup>3</sup> /h
<b>Minimum Return Flow<sup>2</sup></b> <b>(Recommended)</b>	1.0 gpm	1.0 gpm	5.5 gpm	14.0 gpm	14.0 gpm
	0.2 m <sup>3</sup> /h	0.2 m <sup>3</sup> /h	1.2 m <sup>3</sup> /h	3.2 m <sup>3</sup> /h	3.2 m <sup>3</sup> /h
<b>Direct Feed Mode</b> <b>(Optional)</b>	2.7-3.3 gpm	4.5-6.0 gpm	9.0-11.0 gpm	27.0-33.0 gpm	40.5-49.5 gpm
	0.6-0.75 m <sup>3</sup> /h	1.0-1.36 m <sup>3</sup> /h	2.0-2.5 m <sup>3</sup> /h	6.1-7.5 m <sup>3</sup> /h	9.2-11.2 m <sup>3</sup> /h
<b>Designed to Exceed</b>	FDA cGMP Guidelines and USP, PhEur (EP), and JP Requirements for Purified Water				
<b>Triple Membrane WFI Base Configuration</b>	Catalytic Activated Carbon, Fines Filter, 254nm Disinfection UV, Break Tank + Electric HWS, Single or Two-Pass Reverse Osmosis, Continuous Electrodeionization				
<b>Nominal Recovery</b>	75.0-85.0% (Up to 100.0% in Conservation Mode)				
<b>Feedwater Source</b>	Filtered and Softened EPA Potable Water				
<b>Feedwater Temperature</b>	55.0 °F - 95.0 °F (12.8 °C - 35.0 °C)				
<b>Frame Construction</b>	Bead Blasted 304 Stainless Steel				
<b>Piping Materials</b>	304 SST Sanitary Tubing, < 20 Ra after RO and Electropolished Post-CEDI Product Contact				
<b>Enclosures</b>	Stainless Steel NEMA 12 with Oversized HMI (Allen Bradley PanelView™ Plus 7 15" Standard)				
<b>Electronic Records</b>	Title 21 CFR Part 11 Ready with Options for Audit Trail and Active Directory User Administration				

<sup>1</sup> Alternate configurations, including higher flows, are available via our dedicated project engineering and management team.

<sup>2</sup> Feedwater conditions may affect system performance. Given ranges assume specified water source and operation at 77.0 °F (25.0 °C)

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## SERVICE

We provide service and support for our equipment, even decades after installation. We continue to support units that were installed in the 1970s and 1980s. We maintain inventories of key components and consumables - and ensure that our service advisors are readily available for technical support via phone or e-mail.